In the Claims:

1. A tuner, comprising:

a pre-select filter that receives a plurality of channels;

an image reject mixer coupled to an output of said pre-select filter;

a local oscillator coupled to said image reject mixer; and

an IF filter coupled to an output of said image reject mixer;

wherein said image reject mixer directly down-converts a selected channel from said plurality of channels to an IF frequency that is within a passband of said IF filter, said selected channel determined by a frequency of said local oscillator.

2. The tuner of claim 1, further comprising a means for adjusting said local oscillator frequency to change said selected channel.

3. The tuner of claim 1, wherein said tuner is on a single semiconductor substrate.

4. The tuner of claim 1, wherein an undesired image of said selected channel is suppressed by said image reject mixer.

5. The tuner of claim 1, wherein said image reject mixer includes two or more component mixers that are driven in quadrature by said local oscillator.

6. The tuner of claim 1, wherein said IF filter is a poly-phase filter.

7. The tuner of claim 1, further comprising a signal processing module coupled to an output of said IF filter, said signal processing module converting an analog IF output signal to a digital IF output signal.

8. The tuner of claim 1, wherein said pre-select filter is calibrated based on

said selected channel, said pre-select filter calibration being independent of said image reject mixer.

9. The tuner of claim 1, wherein said image reject mixer is calibrated based on said selected channel.

10. The tuner of claim 1, further comprising an amplifier coupled between said pre-select filter and said image reject mixer.

11. The tuner of claim 10, wherein said amplifier is calibrated for said selected channel.

12. The tuner of claim 10, further comprising:

a test path having a first input coupled to an output of said pre-select filter, and a second input coupled to an output of said amplifier; and

a signal analyzer having an input coupled to an output of said test path.

13. The tuner of claim 12, wherein said test path bypasses said image reject mixer.

14. The tuner of claim 12, wherein said local oscillator injects a test signal having a frequency of said selected channel into an input of said pre-select filter.

15. The tuner of claim 14, wherein said signal analyzer determines an I/Q balance of said pre-select filter based on said test signal.

16. The tuner of claim 15, wherein parameters of said pre-select filter are adjusted to improve said I/Q balance of said amplifier.

17. The tuner of claim 14, wherein said signal analyzer determines an I/Q

balance of said amplifier based on said test signal.

18. The tuner of claim 17, wherein parameters of said amplifier module are adjusted to improve said I/Q balance of said amplifier.

19. The tuner of claim 14, wherein said signal analyzer has a second input coupled to an output of said image reject mixer, and wherein said signal analyzer determines an I/Q balance of said image reject mixer based on said test signal.

20. The tuner of claim 19, wherein parameters of said image reject mixer are adjusted to improve said I/Q balance of said image reject mixer.

21. The tuner of claim 19, wherein an I/Q balance of said local oscillator is adjusted to improve said I/Q balance of said image reject mixer.

22. The tuner of claim 1, wherein said pre-select filter is a bandpass filter, and wherein a passband of said bandpass filter corresponds to a bandwidth of said plurality of channels.

23. The tuner of claim 1, further comprising a means for compensating for a frequency drift of said RF input signal.

24. The tuner of claim 23, wherein said means for compensating comprises a means for adjusting a frequency of said local oscillator to track said frequency drift of said RF signal, based on an automatic frequency control signal.

25. A tuner, comprising:

a pre-select filter that receives a plurality of channels;

an image reject mixer that directly down-converts said plurality of channels to corresponding lower IF frequencies, said IF frequencies determined by a

frequency of a local oscillator signal; and

an IF filter that selects a channel from said plurality of down-converted channels, wherein said selected channel is in passband of said IF filter.

26. A tuner, comprising:

a pre-select filter that receives a plurality of channels;

an amplifier that is coupled to said pre-select filter;

an image reject mixer that is coupled to said amplifier;

an IF filter coupled to an output of said image reject mixer; and

a test path having a first input coupled to an output of said pre-select filter, and a second input coupled to an output of said amplifier, wherein said test path bypasses said image reject mixer.

27. The tuner of claim 26, further comprising:

means for injecting a test signal into said pre-select filter, wherein said test signal corresponds to a selected channel; and

a signal analyzer, coupled to an output of said test path, wherein said signal analyzer determines an I/Q balance of said pre-select filter based on said test signal.

28. The tuner of claim 27, further comprising means for adjusting parameters of said pre-select filter based on said I/Q balance.

29. The tuner of claim 27, wherein said signal analyzer determines an I/Q balance of said amplifier based said test signal.

30. The tuner of claim 29, further comprising means for adjusting parameters of said amplifier based on said I/Q balance.

31. A method of calibrating a tuner for a selected channel, comprising the

steps of:

(1) generating a test signal having a frequency that corresponds to said selected channel;

(2) injecting said test signal into an input of said tuner; and

(3) determining an I/Q balance of one or more components of the tuner, based on said test signal.

32. The method of claim 31, further comprising the step of:

(4) adjusting parameters of said components of the tuner to improve said I/Q balance.

33. The method of claim 32, further comprising the step of:

(5) repeating steps (1)-(4) after a time delay.

34. The method of claim 31, wherein step (3) comprises the step of determining an I/Q balance of a pre-select filter based on said test signal.

35. The method of claim 34, further comprising the step of:

(4) adjusting one or more parameters of said pre-select filter to improve said I/Q balance of said pre-select filter at said selected channel frequency.

36. The method of claim 31, wherein step (3) comprises the step of determining an I/Q balance of an amplifier based on said test signal.

37. The method of claim 36, further comprising the step of:

(4) adjusting one or more parameters of said amplifier to improve said I/Q balance of said amplifier at said selected channel frequency.

38. The method of claim 31, wherein step (3) comprises the step of

determining an I/Q balance of an image reject mixer based on said test signal.

39. The method of claim 38, further comprising the steps of:

(4) adjusting one or more parameters of said image reject mixer to improve said I/Q balance of said image reject mixer at said selected channel frequency.

40. The method of claim 39, further comprising the step of:

(5) adjusting an I/Q balance of a local oscillator signal that drives said image reject mixer to improve said I/Q balance of said image reject mixer.

41. A method of calibrating a tuner for a selected channel, comprising the steps of:

(1) generating a test signal having a frequency that corresponds to said selected channel;

(2) injecting said test signal into an input of said tuner;

(3) determining an I/Q balance of a pre-select filter based on said test signal; and

(4) adjusting parameters of said pre-select filter to improve said I/Q balance for said pre-select filter at said selected channel frequency.

42. The method of claim 41, further comprising the steps of:

(5) determining an I/Q balance of an amplifier based on said test signal, wherein step (5) is performed after step (4); and

(6) adjusting parameters of said amplifier to improve said I/Q balance for said amplifier at said selected channel frequency.

43. The method of claim 42, further comprising steps of:

(7) determining an I/Q balance of an image reject mixer based on said test signal, wherein step (7) is performed after step (6); and

(8) adjusting parameters of said image reject mixer to improve said I/Q balance for said image reject mixer at said selected channel frequency.

44. The method of claim 43, further comprising the step of:

(9) adjusting an I/Q balance of a local oscillator signal that drives said image reject mixer to improve said I/Q balance of said image reject mixer.

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45. In a tuner, a method of processing an RF input signal having a plurality of channels, wherein one of said channels is a selected channel, comprising the steps of:

(1) filtering the RF input signal using an input filter to remove out-of-band signals;

(2) down-converting the RF input signal to a down-converted signal using an image reject mixer so that the selected channel is shifted to a pre-defined intermediate frequency (IF), and so that an image of the selected channel is attenuated relative to the selected channel; and

(3) filtering said down-converted signal using an IF filter to pass the selected channel at said IF frequency, and to attenuate at least one of the remaining channels.

46. The method of claim 45, wherein step (2) comprises the step of mixing the RF input signal with a LO signal in said image reject mixer, wherein a frequency of said LO signal is determined based on said selected channel and said IF frequency.

47. The method of claim 45, further comprising the step of:

(4) calibrating the tuner prior to step (1) based on the selected channel.

48. The method of claim 47, wherein step (4) comprises the steps of:

(a) generating a test signal having a frequency that corresponds to the

selected channel;

(b) injecting said test signal into an input of the tuner;

(c) calibrating said input filter based on said test signal;

(d) calibrating an amplifier based on said test signal; and

(e) calibrating said image reject mixer based on said test signal.

49. The method of claim 48, wherein step (c) comprises the steps of:

(I) determining an I/Q balance of said input filter based on said test signal; and

(ii) adjusting parameters of said input filter to improve said I/Q balance for said input filter at said selected channel frequency.

50. The method of claim 48, wherein step (d) comprises the steps of:

(I) determining an I/Q balance of said amplifier based on said test signal; and

(ii) adjusting parameters of said amplifier to improve said I/Q balance for said amplifier at said selected channel frequency.

51. The method of claim 48, wherein step (d) comprises the steps of:

(I) determining an I/Q balance of said image reject mixer based on said test signal; and

(ii) adjusting parameters of said image reject mixer to improve said I/Q balance for said image reject mixer at said selected channel frequency.

52. The method of claim 51, further comprising the step of:

(iii) adjusting an I/Q balance of a local oscillator signal that drives said image reject mixer to improve said I/Q balance of said image reject mixer.

53. A method of down-converting a radio frequency (RF) signal to an intermediate frequency (IF) signal, comprising the steps of:

(1) filtering the RF signal to reject at least one out-of-band signal;

(2) in-phase (I) and quadrature (Q) mixing the RF signal with a LO signal to produce an IF signal having image suppression; and

(3) filtering said IF signal to select the desired channel.

54. The method of claim 53, wherein step (2) comprises:

(a) dividing the RF signal into a first component and a second component;

(b) mixing said first component of the RF signal with an in-phase component of said LO signal to produce an in-phase IF signal component, and mixing said second component of the RF signal with a quadrature component of said LO signal to produce a quadrature IF signal component; and

(c) combining said in-phase IF signal component and said quadrature IF signal component.

55. The method of claim 54, wherein step (c) comprises the step of combining said in-phase IF signal component and said quadrature IF signal component in an IF filter having a passband at a frequency of said desired channel.